ROSS ENVIRONMENTAL ASSOCIATES, INC.

Hydrogeology, Water Quality, GIS Planning, Remediation,
Geothermal Technology, Regulatory Compliance and Permitting,
Environmental Site Assessments, and Radon Mitigation

January 12, 2011

Ms. Annie Robichaud
Redhawk Environmental Consulting, Ltd.
2845 Hale Hollow Rd.
Bridgewater Corners, VT 05035

RE: *Follow up Indoor Air Screening*
Clegg Residence –Wolcott, Vermont (SMS# 2008-3857)

Dear Ms. Robichaud:

Ross Environmental Associates, Inc. (***R.E.A.***) has completed a follow up indoor air screening at the Clegg residence located at 729 Corley Road in Wolcott, Vermont (**Figures 1 & 2**). All work was completed as requested by the VT DEC and as outlined in the approved ***R.E.A.*** work plan dated 15 November 2010.

Indoor Air Screening

On 17 December 2010, the basement of the Clegg residence was screened with a Photoionization Detector (PID) for the possible presence of volatile organic compounds (VOCs).

- Ambient air PID readings within the basement of the residence were 0.0 parts per million (ppm) upon arrival at the residence with closed house conditions.
- PID readings of the expansion joint crack on the western side of the basement were all 0.0 to 0.1 ppm in all locations north of the support pole.
- PID readings of the expansion joint crack on the western side of the basement in locations south of the support pole ranged from 3.0 to 14.5 ppm. Portions of the epoxy seal material used to seal the expansion joint were noted to be cracked in this specific area.
- PID readings of the expansion joint crack on the eastern side of the basement were all 0.0 ppm.
- PID readings ranging from 0.0 to 18.7 ppm were encountered at the north foundation wall/floor interface.
- PID readings ranging from 19.1 to 28.5 ppm were encountered in a small visible gap at the south foundation wall/floor interface at the southern end of the western expansion joint crack.

On the day of the screening, ***R.E.A.*** observed that the basement of the Clegg residence was free of water, no signs of petroleum contamination were present and no olfactory petroleum odors were noted. However, the additional 275-gallon above ground storage tank (AST), that was observed during the previous site visit, was still located in the basement and appeared to be in the process of being plumbed to the original 275-gallon AST. The AST appeared to be open, empty but not in new condition.

Ambient air within the basement of the residence was screened for the possible presence of volatile organic compounds (VOCs) with an RAE systems MiniRAE 2000 photo-ionization detector (PID). The PID was calibrated with isobutylene gas to a benzene reference on the day of the site visit. PID readings of the expansion joint cracks and basement floor were collected during a 30-second contact

(OVER)

period in the vicinity of each specified location. A summary of PID readings and screening locations are attached.

Conclusion/Recommendations

Available information indicates that low levels of residual petroleum contamination remain present in sub-surface soils at the edge of the basement footer wall and beneath the northwest corner of the concrete floor. The overburden groundwater formation at the site does not appear to have been significantly impacted by petroleum contamination and no other sensitive receptors appear to be threatened by the 2008 release of approximately 50-gallons of No. 2 fuel oil within the basement of the residence at this time.

However, low concentrations of residual petroleum vapors appear to be diffusing into the basement of the residence by way of preferential pathways not previously observed to be exhibiting elevated PID readings during previous site visits. Observations indicate that the sealing of the main pathways and the seasonal operation of the radiantly heated floor appear to have contributed to the elevated PID readings in the identified areas. Historically, background ambient air PID readings within the basement of the residence have been below 1.0 ppm. No sampling or laboratory analysis of indoor air has been completed at the site. ***R.E.A.*** recommends completing an evaluation of mitigation options, including but not limited to: resealing of the entire basement floor and/or the installation of a sub-slab depressurization system. The mitigation evaluation may also include an assessment of facilitating an indoor air sampling program at the site.

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Please call me if you have any questions or concerns regarding the enclosed information.

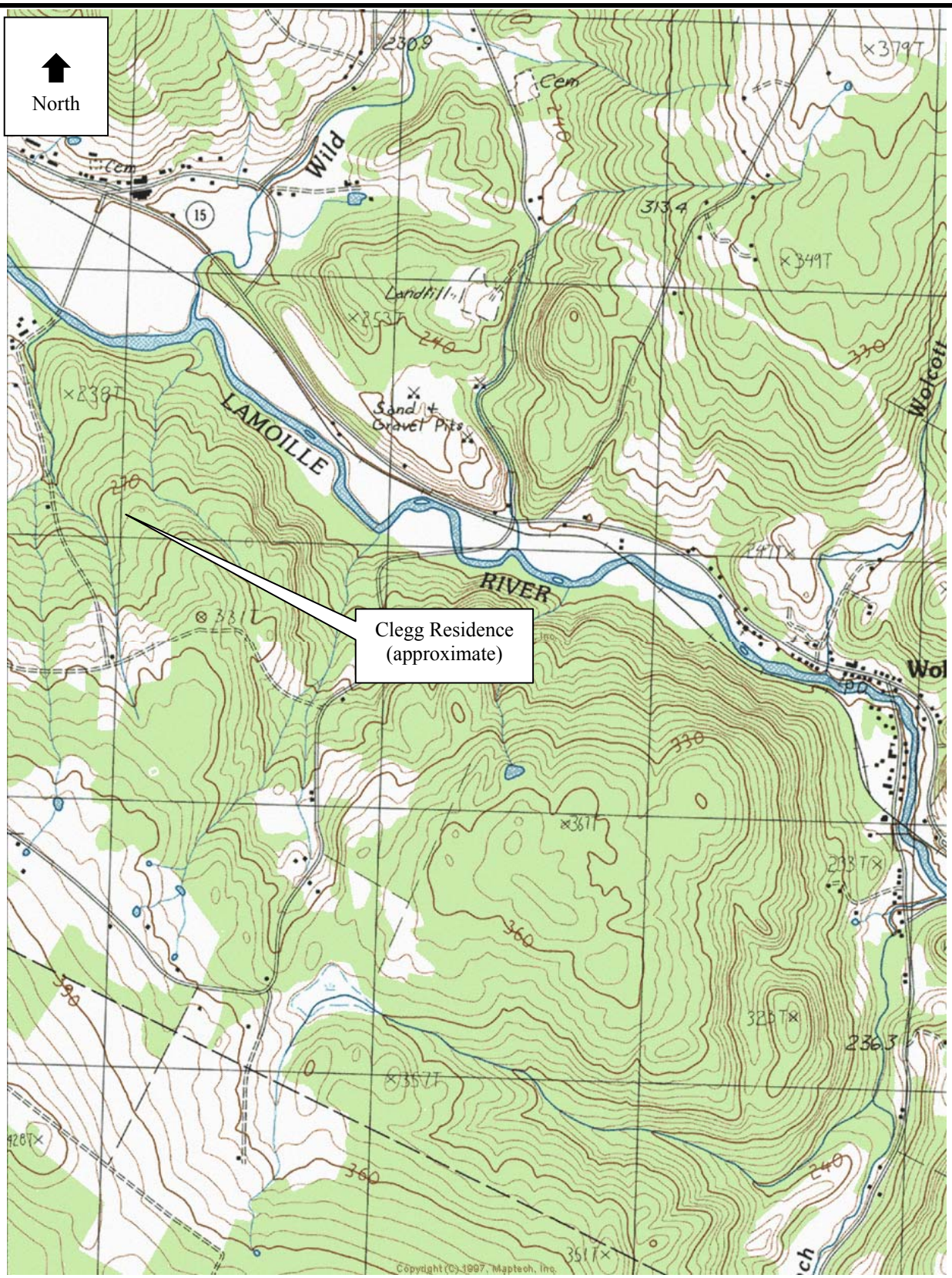
Sincerely,
Ross Environmental Associates, Inc.

James A. Rose
Project Scientist

Attachments

cc. Mr. John Clegg
Mr. John Diego - Leggette, Brashears & Graham, Inc. (e-mail)
Mr. Ashley Desmond - VT DEC (e-mail)

Jar/ref: 28050 IA Screen



Approximate Scale: 1 inch = 1,200 feet

Site Coordinates: 44° 33' 17.55" N, 72° 29' 80.60" W

Source: USGS 1986. Wolcott Quadrangle, VT.
Topographic map (7.5 minute series).
Provisional Edition 1986. Maptech, Inc. 1998.
R.E.A. Project No. 28-050

Figure 1
Site Location Map
Clegg Residence
Wolcott, Vermont

Site Coordinates: 44° 33' 17.55" N 72 ° 29' 80.60" W

Legend

- Private Wells
- Roads

Figure 2
Private Wells within 1,000 Foot Radius
Clegg Residence
Wolcott, Vermont

Aerial Photo: NAIP 2003

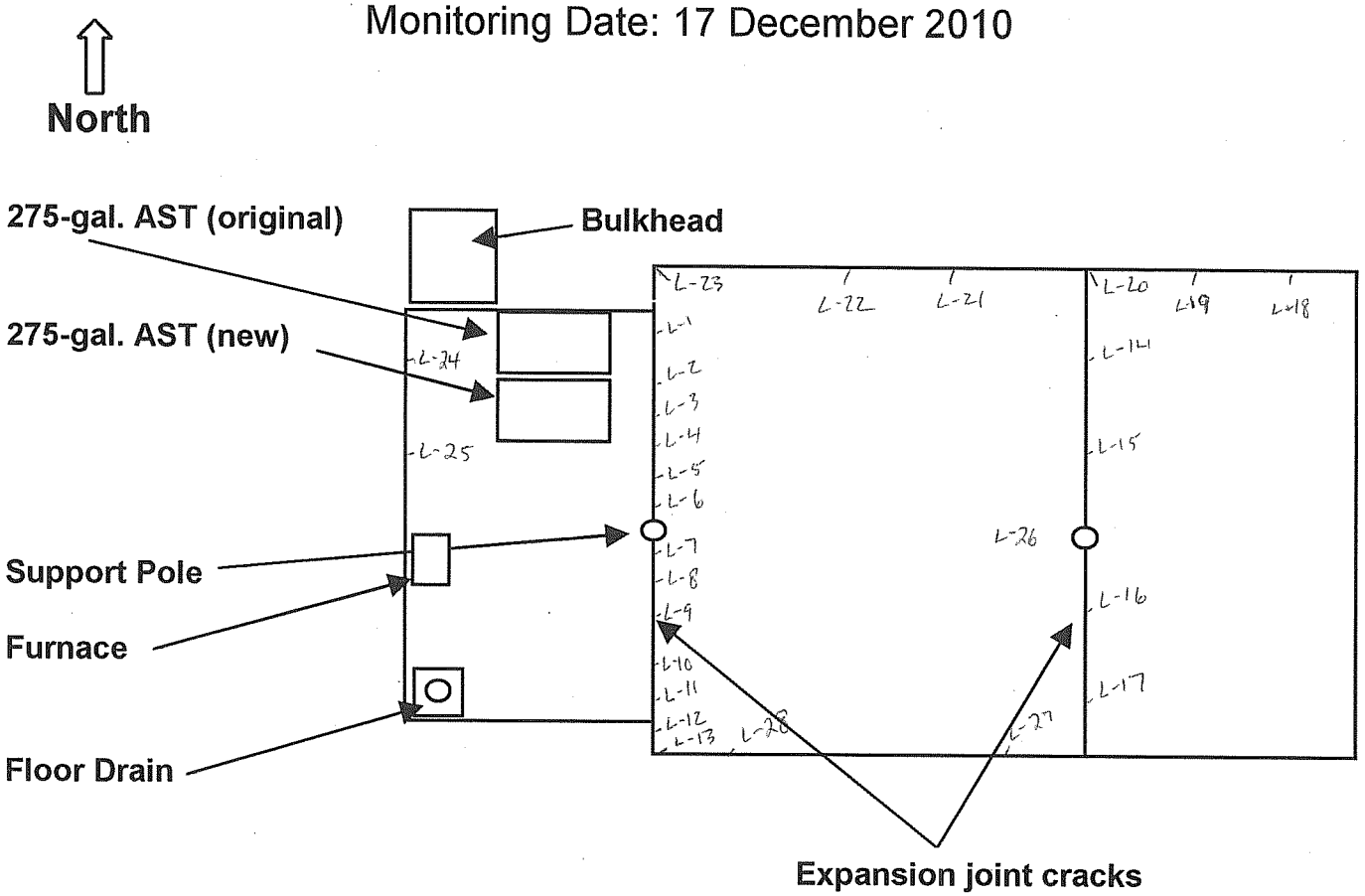
Private Well Data: Extracted and downloaded from the State of Vermont ANR Well Locator.
http://maps.vermont.gov/imf/sites/ANR_WSWelldriller/jsp/launch.jsp

F:\Projects\28050\PDFs\Figure 2.pdf
F:\Projects\28050\GIS_Wells\Map.mxd

Figure 3

Indoor Air Screening
Clegg Residence
729 Corley Road
Wolcott, Vermont

Monitoring Date: 17 December 2010



Not to Scale. All locations Approximate.

TABLE 1

Summary of PID Readings
Indoor Air Screening
Clegg Residence
729 Corley Road
Wolcott, Vermont

Monitoring Date: 17 December 2010

Sample ID	PID Reading (ppmv)	Location/comments
L-1	0.0 - 0.1	Expansion joint #1 (north of support pole)
L-2	0.0 - 0.1	Expansion joint #1 (north of support pole)
L-3	0.0 - 0.1	Expansion joint #1 (north of support pole)
L-4	0.0 - 0.1	Expansion joint #1 (north of support pole)
L-5	0.0 - 0.1	Expansion joint #1 (north of support pole)
L-6	0.0 - 0.1	Expansion joint #1 (north of support pole)
L-7	3.0	Expansion joint #1 (south of support pole)
L-8	10.4	Expansion joint #1 (south of support pole)
L-9	14.3	Expansion joint #1 (south of support pole)
L-10	10.9	Expansion joint #1 (south of support pole)
L-11	14.5	Expansion joint #1 (south of support pole)
L-12	28.5	floor wall seam at foundation jog
L-13	19.1	floor wall seam at south foundation wall
L-14	0.0	Expansion joint #2 (north of support pole)
L-15	0.0	Expansion joint #2 (north of support pole)
L-16	0.0	Expansion joint #2 (south of support pole)
L-17	0.0	Expansion joint #2 (south of support pole)
L-18	0.0	floor wall seam at north foundation wall
L-19	0.2	floor wall seam at north foundation wall
L-20	1.9	floor wall seam at north foundation wall
L-21	3.7	floor wall seam at north foundation wall
L-22	18.7	floor wall seam at north foundation wall
L-23	0.7	floor wall seam at north foundation wall
L-24	1.9	floor wall seam at west foundation wall
L-25	1.5	floor wall seam at west foundation wall
L-26	0.1	square hole for former support pole
L-27	0.0	floor wall seam at south foundation wall
L-28	8.7	floor wall seam at south foundation wall
AVERAGE	**4.9**	

PID = photoionization detector, Phochek
ppmv = parts per million volume, bg = below grade